

**Identification of Achievable Performance Standards**  
**Source Category: Fugitive Emissions of VOCs from Chemical Plants**

| Regulated Component                          | Pollutant | Rule/Measure/Date   |   |  |   |   |  |  |  |  |  |  |
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|  |           | RACT Determination of Fugitive Emissions of VOCs from Oil and Gas Production and Processing Facilities, Refineries, Chemical Plants, and Pipeline Transfer Stations. 12/8/93. |   | SCAQMD Rule 1173. Fugitive Emissions of Volatile Organic Compounds. 5/13/94. |   | VCAPCD Rule 74.7. Fugitive Emissions of Reactive Organic Compounds (ROC) at Petroleum Refineries & Chemical Plants. 10/10/95. (Similar to RACT except as noted) |  |  |  |  |  |  |
|  |           | Performance Standard  |   |  |   |   |  |  |  |  |  |  |
| Leak Definitions:                            |           |   | Conc. of total <u>gaseous</u> hydrocarbons, including methane, measured above background, expressed as methane and measured at interface of leak source; EPA Reference Method 21 "Method 21". |  | Conc. of <u>gaseous</u> volatile organic compound, measured above background, expressed as methane and measured 1 cm or less from leak source; EPA Reference Method 21 "Method 21". |   |  |  |  |  |  |  |
| Major Gas Leak Definitions:                  |           |   | > 10,000 ppmv   |  | >10,000 ppmv (except PRD)   |   |  |  |  |  |  |  |
| Minor Gas Leak Definitions:                  |           |   | >1,000 ppmv but ≤10,000 ppmv  |  | >1,000 ppmv but ≤10,000 ppmv (except PRD)   |   |  |  |  |  |  |  |
| Pressure Relief Device Gas Leak Definitions: |           |   |   |  | >200 ppm  |   |  |  |  |  |  |  |

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| Major Liquid Leak Definitions: |           |   | visible mist or continuous flow of liquid.                                   |  | dripping of liquid volatile organic compounds at rate of more than 3 drops per minute. |   |  |  |  |  |  |
| Minor Liquid Leak Definitions: |           |   | Not a major leak and drips liquid at a rate of more than 3 drops per minute. |  | dripping of liquid volatile organic compounds at rate of more than 3 drops per minute. |   |  |  |  |  |  |

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| A. Leak Control Requirements | VOC       |   |  | - Any liquid leak or gas leak > 50,000 ppm detected by District inspection constitute a violation.<br>- Any major gas leak detected by District inspection, within any continuous 24-hour period, and numbering in excess of number of leaks allowed, constitute a violation. |  |   |  |  |  |

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| A1. Gas leaks allowed (<200 components):<br>- Valves (V)<br>- Pumps seals (P)<br>- Compressors seals (Cp)<br>- Pressure Relief Valves (PRV)<br>- Hatches<br>- Open ended lines (OEL)<br>- Other components |           | N/A   |  |  | 1<br>2<br>1<br>1 |   |  |  |  |  |  |
|  |           |   |  |  | 1                |   |  |  |  |  |  |

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| A2. <u>Gas leaks allowed (&gt;200 components):</u><br>- Valves (V)<br>- Pumps seals (P)<br>- Compressors seals (Cp)<br>- Pressure Relief Valves (PRV)<br>- Hatches<br>- Open ended lines (OEL)<br>- Other components |           | N/A   |  | 0.5% of # inspected.<br>1% of # inspected.<br>1<br>1<br><br>1   |  |  |  |  |  |
| <b>B. Components ID</b>  | VOC       |   |  |   |  |  |  |  |  |
| <u>B1. All components physically identified:</u>   |           | - major, critical   | - major components   |   |  |  |  |  |  |
| <u>B2. Components identified on flow diagrams:</u>   |           | - major, critical, & inaccessible except C & F.   | - minor components   |   |  |  |  |  |  |
| <b>C. Operators Inspection Requirements</b>  |           |   |  |   |  |  |  |  |  |

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| C1. Audio-visual insp. (RACT defn. of leak: any liquid leak, a visible or audible leak, the presence of bubbles using soap solns., or a leak identified by use of a vapor analyzer.) (Note: If vapor leak identified, measured leak according to Method 21.) |           | - Every 8 hrs (P, Cp, PRV)<br>- Daily (P, Cp, PRV, & PRSB at manned oil & gas production fields and pipeline transfer stations)<br>- Weekly (unmanned facilities)             |  | - Every 8 hrs (accessible P, Cp, PRV except for unmanned oil & gas production fields and unmanned pipeline transfer stations) |  |   |  |  |  |
| C2. Hydrocarbon analyzer Monitoring (Method 21) - Accessible components:   |           | - Quarterly except Threaded Connections & Flanges   |  | - Quarterly   |  | - Monthly   |  |  |  |

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| C2. Hydrocarbon analyzer Monitoring (Method 21) - Threaded Connections & Flanges: |           |   | - Immediately after being installed and semi-annually thereafter |  |                |   | - New, replaced or repaired fittings, including flanges & threaded connections shall be monitored immediately after being placed into service or w/in 30 days if necessary due to instrumentation design. |  |  |  |  |
| C2. Hydrocarbon analyzer Monitoring (Method 21) - Inaccessible components:        |           |   | - Yearly   |  | - Yearly       |   |   |  |  |  |  |
| C2. Hydrocarbon analyzer Monitoring (Method 21) - unsafe to monitor components:   |           |   | - Inspection plan approved by EO                                 |  |                |   |   |  |  |  |  |
| C2. Hydrocarbon analyzer Monitoring (Method 21) - PRV after a pressure relief:    |           |   | - W/in 3 days  |  | - W/in 14 days |   |   |  |  |  |  |
| C2. Hydrocarbon   |           |   | - Yearly (all  |  | - Yearly (all  |   | - Quarterly (except   |  |  |  |  |

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| <u>analyzer Monitoring (Method 21) - Monitoring frequency extended for good performance:</u> |           | components except P, Cp, PRV, & PRSB at facility if <u>no liquid leaks and no major gas leaks &gt; 0.5%</u> of total components inspected per inspection period for 12 consecutive months.) ( <b>Note:</b> Leaks from PRSBs are not included in total count of leaking components in the 0.5% determination.) | components except P, Cp at facility if <u>no liquid leaks and no major gas leaks &gt; 0.5%</u> of total components inspected per inspection period for 5 consecutive quarters) | flanges & threaded connections - yearly) if no major gas leak or any major liquid leak for 3 consecutive monthly inspections.                                   |  |  |  |
| <u>C3. Tag all leaks detected.</u>   |           | Yes - use brightly colored weatherproof tags showing date of leak detection, tag not to be removed until component is repaired and reinspected.   | - None specified   |   |  |  |  |

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| D. Maintenance Requirements   |           |   |   |  |                                       |   |  |  |  |
| <u>D1. Non-essential Components - Repair Gas Leaks within:</u>                  |           |   | - 14 days (minor)<br>- 5 days (major)   |  | - 14 days (minor)<br>- 5 days (major) |   |  |  |  |
| <u>D1. Non-essential Components - Repair Gas Leaks &gt; 50,000 ppmv within:</u> |           |   | - 1 day** (onshore)<br>- 2 days (o/g production or pipeline transfer stations)<br>- 5 days (offshore)<br><br>(**Note: unless prohibited by Cal OSHA standards or 29 CFR 1910) |  | - 1 day                               |   |  |  |  |

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| <u>D1. Non-essential Components - Repair Major Liquid Leaks Within:</u> |           | - 1 day** (onshore)<br>- 2 days (o/g production or pipeline transfer stations)<br>- 5 days (offshore)<br><br>(**Note: unless prohibited by Cal OSHA standards or 29 CFR 1910) | - 1 day |  |  |   |  |  |  |
| <u>D1. Non-essential Components - Repair Minor Liquid Leaks Within:</u> |           | - 2 days** (onshore)<br>- 5 days (offshore)<br><br>(**Note: unless prohibited by Cal OSHA standards or 29 CFR 1910)   | - 1 day |  |  |   |  |  |  |

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| D2. Essential Components - Minimized Leaks within: |           | - Immediately<br><br>- <u>Critical &amp; unsafe to monitor components:</u> minimized immediately and replaced w/ BACT during shutdown or w/in 12 months, whichever occurs first. |  | - not specified  |  |   |  |  |  |
| D2. Chronic Leakers:                               |           | - <u>Components with 5 repair actions for major gas or liquid leak within 12 months:</u> replaced with BACT.   |  | - <u>Components with 5 repair actions for a liquid leak or a major gas leak within a continuous 12 months period:</u> replaced with BACT or BART, or vent to an approvable air pollution control device. |  |   |  |  |  |

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| <u>D2. OEL and V Located at End of Lines:</u> |           | - Sealed with a blind flange, plug, cap, or a second closed valve except during operations.<br><u>(Note: Operations</u> include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs.) |  |  |  |   |  |  |  |
| <u>D2. Hatches:</u>                           |           | - Keep closed except during sampling, adding process matl., or attended maintenance operations.   |  |  |  |   |  |  |  |

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| D3. Components inspected after repair or replacement with Method 21: |           | - Within 30 days  | - Within 30 days   |  |  |  |  |  |  |
| D4. Operator management plan:  |           | N/A   | N/A  |  |  |  |  |  |  |
|  |           |   |  |  |  |  |  |  |  |
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